Title (en)

LIGHT EMITTING DIODE HAVING SIDE REFLECTION LAYER

Title (de)

LEUCHTDIODE MIT SEITENREFLEXIONSSCHICHT

Title (fr)

DIODE ÉLECTROLUMINESCENTE À COUCHE DE RÉFLEXION LATÉRALE

Publication

EP 3364469 B1 20200708 (EN)

Application

EP 18152671 A 20180122

Priority

- KR 20170021633 A 20170217
- KR 20170024350 A 20170223
- KR 20170127323 A 20170929

Abstract (en)

[origin: EP3364469A1] Disclosed is a light emitting diode including a side reflection layer. The light emitting diode includes a substrate having a side surface; a semiconductor stack disposed under the substrate and including a first conductivity type semiconductor layer, a second conductivity type semiconductor layer, and an active layer interposed between the first conductivity type semiconductor layer and the second conductivity type semiconductor layer; an ohmic reflection layer electrically connected to the second conductivity type semiconductor layer; a first bump pad and a second bump pad disposed under the ohmic reflection layer and electrically connected to the first conductivity type semiconductor layer and the second conductivity type semiconductor layer, respectively; a side reflection layer covering the side surface of the substrate; and a capping layer covering an upper surface of the substrate and the side reflection layer.

IPC 8 full level

H01L 33/46 (2010.01)

CPC (source: CN EP KR US)

H01L 33/0075 (2013.01 - KR); **H01L 33/10** (2013.01 - CN); **H01L 33/14** (2013.01 - KR); **H01L 33/20** (2013.01 - KR US); **H01L 33/22** (2013.01 - CN); **H01L 33/44** (2013.01 - KR); **H01L 33/46** (2013.01 - EP US); **H01L 33/50** (2013.01 - CN KR); **H01L 33/505** (2013.01 - US); **H01L 33/54** (2013.01 - US); **H01L 33/60** (2013.01 - US); **H01L 33/62** (2013.01 - US); H01L 33/382 (2013.01 - EP US)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

EP 3364469 A1 20180822; **EP 3364469 B1 20200708**; CN 108461595 A 20180828; CN 108461595 B 20200529; CN 111525007 A 20200811; CN 111525007 B 20230725; CN 111525008 A 20200811; CN 111525008 B 20230725; CN 207637833 U 20180720; KR 102554232 B1 20230712; KR 20220063134 A 20220517; US 10270018 B2 20190423; US 2018240950 A1 20180823

DOCDB simple family (application)

EP 18152671 A 20180122; CN 201711275494 A 20171206; CN 201721685120 U 20171206; CN 202010360589 A 20171206; CN 202010361306 A 20171206; KR 20220053961 A 20220502; US 201815863971 A 20180107